Sheet

PTO/SB/08A (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

	or form 1449A/P				omplete if Known
•				Application Number	
INFOF	MATION	1 DISC	LOSURE	Filing Date	
STATI	EMENT I	BY APP	PLICANT	First Named Inventor	Thomas J.Pinnavaia
U 17111				Group Art Unit	
(U	se as many st	neets as nec	cessary)	Examiner Name	
Sheet	1	of	5 .	Attorney Docket Number	MSU 4.1-568

	_				U.S. PATENT DOCU	MENTS	
Exami Initials		Cite No.1	Number	nt Document Kind Code ² (If known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
B	V)	AA	5,264	, 203	Beck et al	<u> </u>	
		AB	4,178		Vaughan et al	_	
		AC	3,574		McDaniel		
		AD	3,808	.326	McDaniel et al		
2		AE_	3,671	191	Maher et al		
		AF	3,789	107	Elliott		
	_				3		
	_						
				-+			
			 				
							
	\dashv		 				
_	-		ļ		 		
 			 				
 	-		 		 		
<u> </u>	-		 		 		
-	_		 				
	\neg	_	 				
	\dashv	_					

				FORE	IGN PATENT DOCUMENTS	S		
	Cita	F	oreign Patent Doc	zument	Name of Patentse or	Date of Publication of	Pages, Columns, Lines, Where Relevant	
Examiner Initials	Cite No.1	Office ³	Number ⁴	Kind Code ⁵ (# known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	T ⁶
						1.		
 		 						
		 						
-		\vdash						
								\perp
								1
								4
								ــــــــــــــــــــــــــــــــــــــ

Examiner Signature	Danok Some le	Date Considered	10/1/23

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Sheet

PTO/SB/08B (10-96)
Approved for use through 10/31/99, OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
and to a collection of information unless it contains a valid OMB control number.

MSU

4.1-568

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Complete if Known

Application Number

Filing Date

First Named inventor Thomas J.Pinnavaia

Group Art Unit

Examiner Name

Attorney Docket Number

		had a second the second of the CARTALL STEPPON the state of the second o	7
Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), data, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
PU	X 1	Ryoo, R., et al., Chem. Commun. 2225 (1997)	
	A2	Luan, Z.H., et al., J. Phys. Chem. 99 10590 (199	5
	А3	Corma, A., et al., J. Catal. 148 569 (1994)	
	A4	Beck, J.S., et al., J. AM. Chem. Soc. 114 10834 (1992)	
	A 5	Chen, C-Y., et al., Microporous Mater. 2 17 (1993)	
	A6	Borade, R.B., et al., Catal. Lett 31 267 (1994)	
	A7	Janicke, M.T., et al., Chem. Mater. 11 1342 (199	9
	A 8	Hamdan, H., et al., J. Chem. Soc. Faraday Trans 92 2311 (1996)	
	A9	Mokaya, R., et al., Chem. Commun. 2185 (1997)	
V	A 10	Ryoo, R., et al., Chem. Mater. 9 1607 (1998)	
QUI	A 11	Corma, A., Chem. Rev. 2373 (1997)	

Examiner Signature Date Considered 10/1/03

*EXAMINER: Initial if reference considered, whether or noticitation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

(Information Disclosure Statement by Applicant (PTO/SB/08B) Other Prior Art—NonPatent Literature Documents (1449A/PTO) [6-2.1]—page 1 of 1)

¹ Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.

PTC/SB/088 (10-96)
Approved for use through 10/31/99, OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE lection of information unless it contains a valid OMB control number.

Under the Peperwork Reduction Act of 1995, no persons are required to respond to a colle

Substitu	ute for form 1449B/PTC	•	·	Co	omplete if Kn	own
				Application Number		
INF	ORMATION	I DIS	SCLOSURE	.Filing Date		
STA	TEMENT F	RY A	IPPLICANT	First Named Inventor	Thomas	J.Pinnavaia
O i,				Group Art Unit		
	(use as many s	heets a	as necessary)	Examiner Name		
heet	3	of	5	Attorney Docket Number	MSU 4	.1-568

		OTHER PRIOR ART - NON PAYENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), data, page(s), volume-issue number(s), publisher, city and/or country where published.	Ls
	A 12	Kim et al., Science, 282 1302 (1998)	
	A 13	Bagshaw et al., Chem. Commun. 533-534 (2000)	
	A 14	Lechert et al. Stud. Surf. Sci. Catal., 84 147 (1994)	
	A 15	Robson, ACS Sym. Ser. 398, 436 (1989)	
	A 16	Lok, et al., Zeolites 3, 282 (1983)	
	A 17	Watson, J.N., et al., J. chem. Soc., Faraday Trans. (94) 2181 (1998)	
	A 18	<pre>deMoor, P.P.E.A. ET AL., Chem. Mater. (11) 36 (1999)</pre>	
	A 19	<pre>deMoor, P.P.E.A. et al., J. Phys. Chem. B (103) 1639 (1999)</pre>	
	A 20	Zones, S.E., et al., Microporous Mesoporous Mater. 21, 199 (1998)	
V	A 21	Boyett, R.E., et al., Zeolites (17) 508 (1996)	
<i>All</i>	A 22	J. Am. Chem. Soc. 122, 10712 (2000)	

Examiner Date Signature Considered

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

[&]quot;EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.

Examiner

PTC/SB/088 (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
lection of information unless is contained unified to the contained of the contained

Substitu	Stitute for form 14498/PTO FORMATION DISCLOSURE FATEMENT BY APPLICANT		Complete If Known			
				Application Number	1	
	ORMATI	ON DISC	CLOSURE	.Filing Date		
STA	STATEMENT BY APPLICANT			First Named Inventor	Thomas J.Pinnavaia	
017	· • • • • • • • • • • • • • • • • • • •		LIOAIII	Group Art Unit		
	(use as m	any sheets as	necessary)	Examiner Name		
Sheet	4	of	5	Attorney Docket Number	MSU 4.1-568	

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No.1	include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	72
	⁄A 23	Chem. Comm. 559 (2001)	
	A 24	J. Am. Chem. Soc., 123 5146 (2001)	
	A 25	Chem. Comm. 2177 (1999)	Ī
·	A 26	Nature 412 169 (2001)	
	A 27	Lippmaa et al., J. Amer.Chem. Soc. 108 1730 (1986)	
	A 28	Lawton, S.L., et al., J. Phys. Chem. 100 3788 (1996)	
	A 29	Nature 396 353 (1998)	
	A 30	Jansen, J.C., et al., Chem. Comm. 8 713 (2001)	
	A 31	<pre>deMoor et al., J. Phys. Chem. B 103 1639 (1999)</pre>	
	A 32	White et al., J. Chem. Soc., Faraday Trans. 94, 2181 (1998)	
ŽĮ	A 33	van Santen et al., J. Phys. Chem. 103, 1639 (199) (same as A19)	9

Signature "EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not

Date

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

¹ Unique citation designation number. 4 Applicant is to place a check mark here if English language Translation is attached.

Examiner

PTC/SB/088 (10-96)
Approved for use through 10/31/99, OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE staction of information unless it contains a valid OMB control to the control of the contro

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

and the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitu	te for form 1449B/P	то	<u> </u>	Complete If Known			
INFORMATION DISCLOSURE				Application Number			
INF	DRMATIO	N D	SCLOSURE	.Filing Date			
STATEMENT BY APPLICANT				First Named Inventor	Thomas J.Pinnavaia		
• • • • • • • • • • • • • • • • • • • •				Group Art Unit			
	(use as many	sheets	as necessary)	Examiner Name			
Sheet	5	of	5	Attorney Docket Number	MSU 4.1-568		

Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
OQ)	∦ 34	Ryoo, J. Phys. Chem. 99 16742 (1995)	
	A 35	Mokaya, R., Angew. Chem. Int. Ed. 38 No. 19 2930 (1999)	
	A 36	Kloetstra et al, Chem. Commun., 2281 (1997)	1
	A 37	Perez-Pariente, J., et al., Applied Catalysis 31, 35 (1998)	
	A 38	Camblor, et al., Stud. Surf. Sci. Catal. 105 341 (1997)	
V	A 39	Stucky, et al., J. Am. Chem. Soc. 121:254 (1999)	1
X	7 40	Liu, Y., et al., J. Am. Chem. Soc. 122 8791 (2000)	
			+
			\perp

Signature Considered C

Date

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

¹ Unique citation designation number. 4 Applicant is to place a check mark here if English language Translation is attached.